XIII. "Observations of the Total Solar Eclipse of August 18, 1868." By Captain SOMERVILLE MURRAY. Communicated by Prof. STOKES. Received October 30, 1868.

(Abstract.)

In accordance with the instructions he had received from the Managing Directors of the Peninsular and Oriental Steam Navigation Company, Captain Murray made all observations that were possible of the eclipse of the 18th August; but the high northern latitude of the ship's ('Ellora') position at the time precluded the possibility of observing any remarkable phenomenon, the obscuration of the sun being comparatively slight.

XIV. "Observations of the Total Solar Eclipse of August 18, 1868." By Captain HENRY WELCHMAN KING. Communicated by Prof. STOKES. Received October 30, 1868.

(Abstract.)

The weather was cloudy throughout, but the clouds were thin, so much so as to allow two or three stars to be seen during the time of totality.

The corona exhibited itself quite suddenly on the instant of first totality. It presented the appearance of a golden-yellow brightness of no very intense brilliancy. It disappeared as suddenly as it appeared, on the first sign of the retiring sun. The flames or prominences became visible simultaneously with the corona.

The paper was accompanied by four coloured sketches, the first representing the positions of the sun and moon, with the spots on the former, at an early stage of the eclipse, as observed with a 5-foot telescope by Ross of three inches aperture; the remaining three representing different stages of the totality. The second figure shows a red prominence about 25° to the left or east of the lowest point, with a smaller green prominence, also in contact with the moon, a little distance to the east of it.

The third shows a red prominence about 30° to the right of the lowest point. The fourth figure shows a broad prominence a little to the left of the highest point. The figures 2–4 are thus described :—

Fig. 2. "First instant of totality. This flame or prominence was visible during the whole period of totality by ordinary glasses. The prismatic colours to the eastward of flame I did not see myself, and cannot vouch for them."

Fig. 3. "Middle of totality. This flame or prominence visible during the whole period of eclipse to ordinary glasses."

Fig. 4. "First reappearance of sun. I did not observe this flame in early stages of totality, though it may have been visible. It was observed by the above-mentioned Ross, and was not so brilliant as the others, though more extended. Entire power of the totality extended over 2 minutes 48 seconds."

The observations were made on board the steamer 'Rangoon,' approximate latitude 16° 44′ N., longitude 83° 55′ E.